SEMESTER END EXAMINATION, APRIL-MAY 2025

Course Name: - B. Tech **Semester: - 6th**
Paper Name: - PYTHON PROGRAMMING **Paper Code: -TCS 603**
Time - 3 Hrs + 20 minutes per hour extra time for V.I. & examinees with writer. **Max Marks-70**
Additional 30 Minutes for Mid-Test.

Instructions:

- The question paper consists of three sections namely A, B, C. All sections are compulsory.
- Section A- Each question carries **3 mark. All questions are compulsory.**
- Section B- Answer any **5 out of 7** given questions. Each question carries **7 marks.**
- Section C- Answer any **2 out of 3** given questions. Each question carries **10 marks.**
- Section D- Each question carries **02 mark.** All questions are compulsory.

Section – A (खण्ड–अ)

Objective Questions (वस्तुनिष्ठ प्रश्न)

1. Answer all the following questions. **5x3 =15**

i. What will be the output of the following code snippet?

```
print(3 * 'abc')
```

a) abcabcabcabc
b) abcabc
c) abcabcabc
d) Error: cannot multiply sequence by non-int of type 'str'

ii. Which of the following is a valid way to create a dictionary in Python?

a) {key1: value1, key2: value2}
b) dict(key1=value1, key2=value2)
c) dict([key1, value1], [key2, value2])
d) Both a and b

iii. What does the pop() method do when used with lists in Python?

a) Removes the first element of the list
b) Removes the last element of the list
c) Removes the element at the specified index
d) Adds an element to the end of the list

iv. What is the output of the following code?

```
my_string = "Hello World"print(my_string[::-1])
```

a) dlroW olleH
b) Hello World
c) World Hello
d) olleH dlroW

v. What will be the output of the following code snippet?

```
my_list = [1, 2, 3, 4, 5]print(my_list[2:4])
```

a) [1, 2]
b) [3, 4]
c) [2, 3]
d) [2, 4]

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Section – B (खण्ड–ब)
Short Answer Questions (लघुउत्तरीय प्रश्न)

2. Answer any five of the following questions. **5x7=35**

i. What is Python, and what are its popular applications and key benefits in technology?
ii. Write a Python program to find the maximum from a list of a number.
iii. What is slicing in Python? State slicing in list and string.
iv. State the concept of prime number with example. WAP to check whether a given number is prime or not.
v. Explain the different types of operators in Python, providing examples for each.
vi. Briefly describe the data types in Python. How does a list differ from a tuple in Python?
vii. Describe how modules and packages are loaded in Python.

Section – C
Descriptive Questions

3. Answer any two of the following question. **2x10=20**

i) Discuss advanced loop concepts such as nested loops and loop control statements (break, continue, pass) with example.
ii) Discuss the following concepts in Python with respect to functions with examples- Function Definition and Calling, Arguments and Parameters, Variable-Length Arguments.
iii) Write a python program to find the square root of a number by Newton's Method.

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Mid-Test

Course Name:- B. Tech **Semester:- 6th**
Paper Name:- PYTHON PROGRAMMING **Paper Code:- TCS 603**
Time - 30 minutes. **Max Marks-20**

All questions are compulsory. **2×10=20**
सभी प्रश्न अनिवार्य हैं।

Objective Questions.
बहुविकल्पीय प्रश्न ।

1. Which of the following is a mutable data type in Python?
a) String
b) Tuple
c) List
d) Integer

2. What will be the output of the following code? print(type("Hello"))
a) <class 'list'>
b) <class 'str'>
c) <class 'tuple'>
d) <class 'dict'>

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3. How do you convert a string "123" to an integer in Python?
   a) int("123")
   b) str(123)
   c) float("123")
   d) list("123")
4. Which of the following is correct syntax for a single-line comment in Python?
   a) /* comment */
   b) <!-- comment -->
   c) # comment
   d) – comment
5. What is the output of print("Hello" * 2)?
   a) Hello Hello
   b) HelloHello
   c) Hello2
   d) Hello*2
6. What will x = [1, 2, 3]; y = x; y.append(4); print(x) output?
   a) [1, 2, 3, 4]
   b) [1, 2, 3]
   c) [4, 1, 2, 3]
   d) [1, 2, 3, 4] in a new list
7. What will be the output of the following code? a = 10; b = a; a = 20; print(b)
   a) 10
   b) 20
   c) None
   d) Error
8. What is the output of 10 / 3 in Python?
   a) 3.3333
   b) 3.0
   c) 3
   d) 4
9. Which of the following is a valid variable name in Python?
   a) 1_variable
   b) variable_name
   c) variable-name
   d) None
10. What is the result of the following expression?
    'Hello' == 'hello'
    a) True
    b) False
    c) Error
    d) None

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